Leader in Electrics & Automation

XGB Series

Programmable Logic Controller

Slim & Compact Solution

New

Automation Equipment

LS Industrial Systems

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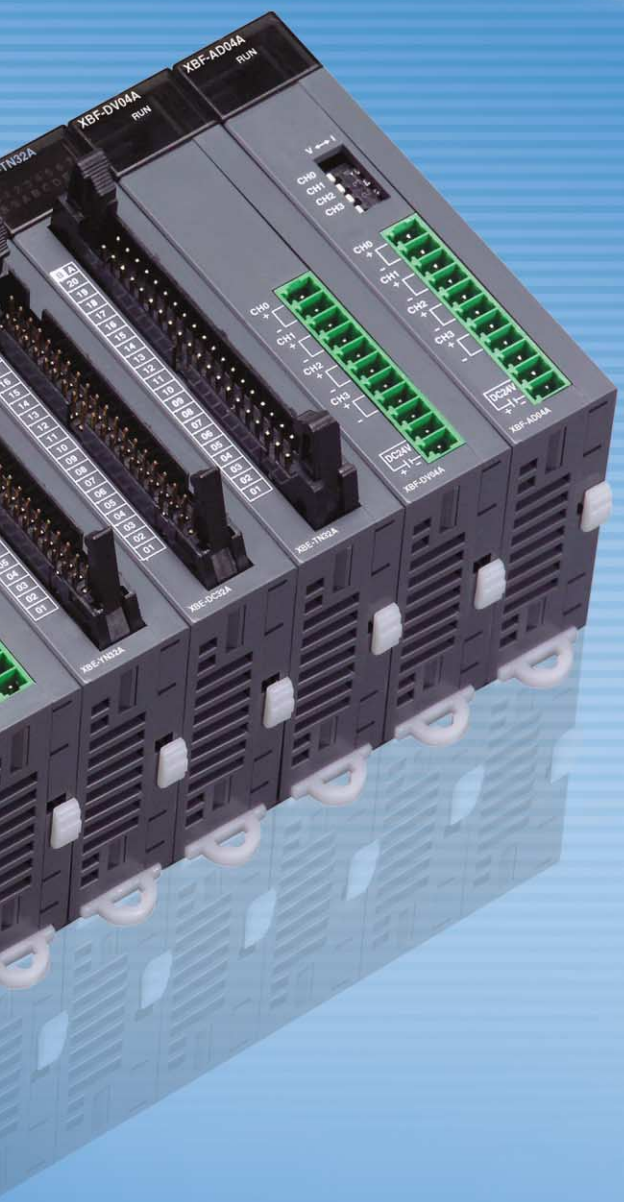
Programmable Logic Controller

XGB Series

All-In-One PLC
with Next Generation Technology

XGB series is the micro PLC that offers maximum automation at minimum cost. With its high performance and functionality, it can support from simple control to complex task. Strengthening its communication functions, XGB offers user-oriented integrated control. Based on its strengths, it can be used in many fields of applications.



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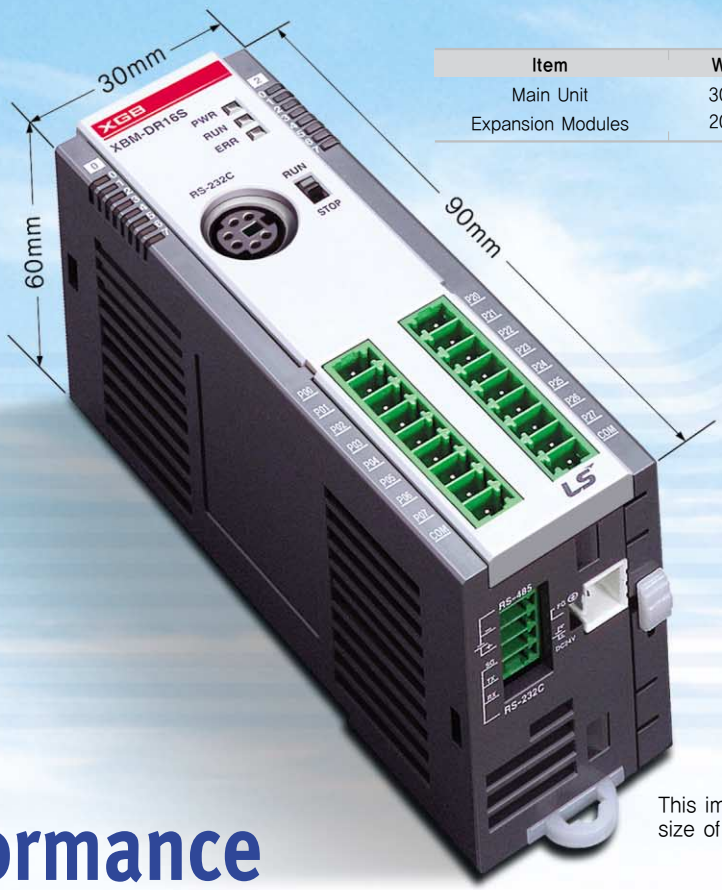
Compactness

XGB series is even more compact but provides powerful functions and performance.
Compact & Powerful solution is XGB's steadfast competitiveness.



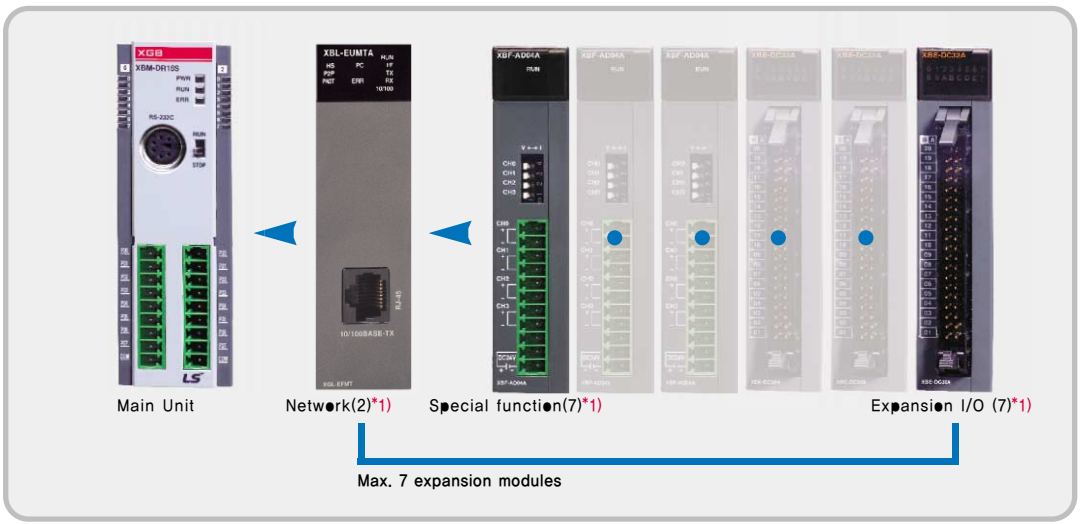
Item	W	H	D
Main Unit	30	90	60
Expansion Modules	20	90	60

This image was drawn to actual size of the product.

High Performance

With its high-speed processing and system capability,
XGB series offers utmost efficiency for your applications.

- 60ns/Step processing speed and floating-point arithmetic with on-board CPU
- Max. 7 expansion modules, Max. 480 I/O point control: PLC systems for Low - to-Mid level applications
- Max. 5-Port Communication with built-in functions and expansion modules

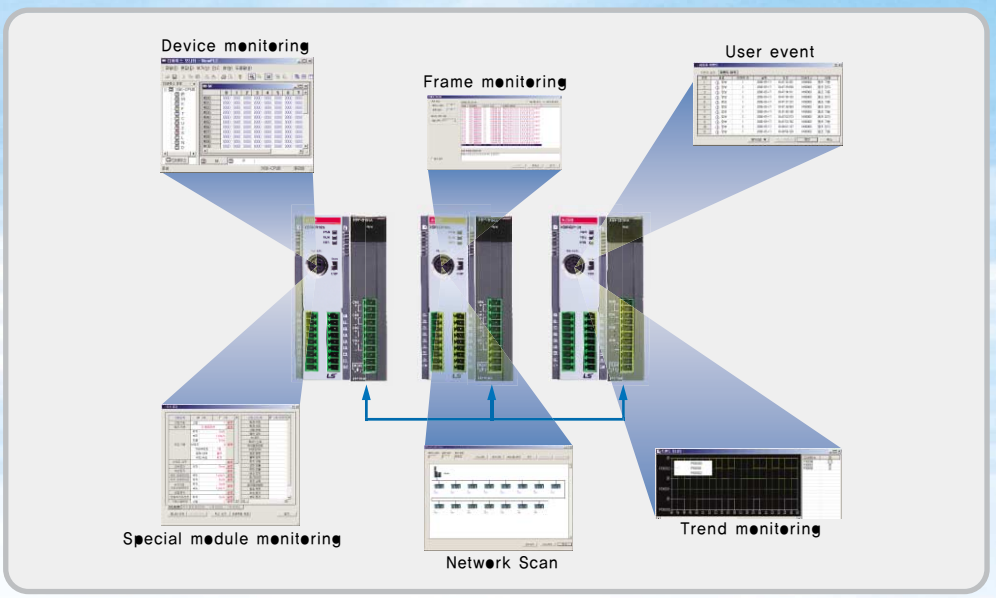


*1) Each number in ( ) is the number of modules that can be mounted for each function (network, special function, expansion I/O). And the total number of mountable expansion modules is limited to 7.

Easiness & Convenience

XGB series offers convenient user interface with various network diagnosis & monitoring functions and back-up function.

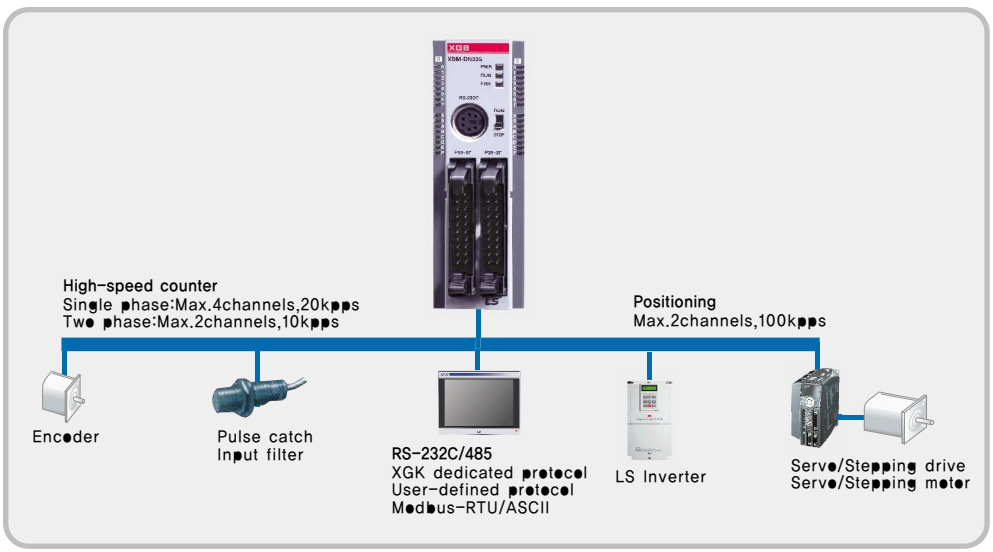
- Enhanced user interface with XG5000/XG-PD
- Various monitoring functions.
- Network diagnosis and monitoring
- Batteryless back-up



Functionality

With its powerful and various built-in functions, XGB series can provide optimum solution for your automation task.

- RS-232C, RS-485 communications
- 2-axis Positioning functions
- High-speed counter (1-phase 4 channels / 2-phase 2 channels)
- PID control (Cascade control available)
- Various input processing such as Pulse catch, Input filter



General specifications

	Item	Descriptions				Standard
1	Ambient temperature	0~55 °C				
2	Storage temperature	-25~+70 °C				
3	Ambient humidity	5~95%RH (Non-condensing)				
4	Storage humidity	5~95%RH (Non-condensing)				
5	Vibration resistance	Ocnasional vibration			10 times each direction (X, Y and Z)	IEC61131-2
		Frequency	Acceleration	Pulse width		
		10 ≤ f 〈 57Hz	-	0.075mm		
		57 ≤ f ≤ 150Hz	9.8m/s²(1G)	-		
		Continuous vibration				
		Frequency	Acceleration	Pulse width		
		10 ≤ f 〈 57Hz	-	0.035mm		
		57 ≤ f ≤ 150Hz	4.9m/s²(0.5g)	-		
6	Shock resistance	• Peak Acceleration: 147m/s²(15g) • Duration: 11ms • Pulse waveform: Half-sine, 3times each directon per each axis				IEC61131-2
7	Noise resistance	Square wave impulse noise	±1,500 V			LSIS Standard
		Electrostatic discharge	4kV			IEC61131-2 IEC61000-4-2
		Radiated electromagnetic field noise	27 ~ 500 MHz, 10V/m			IEC61131-2 IEC61000-4-3
		Fast transient/ Burst noise	Main unit	Expansion module		IEC61131-2 IEC61000-4-4
			2kV	1kV		
8	Operating Ambience	Free from corrosive gases and excessive dust				
9	Altitude	Up to 2,000m				
10	Pollution level *1)	Less than equal to 2				
11	Cooling	Air-cooling				

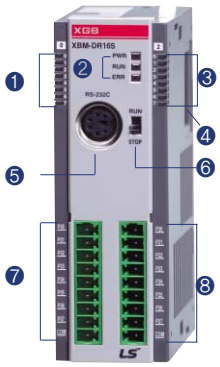
*1) Pollution level indicates the degree to which conductive material is generated in the environment where the equipment is used. Pollution level 2 is the condition that only non-conductive pollution occurred but temporary conductivity may be produced due to condensing.

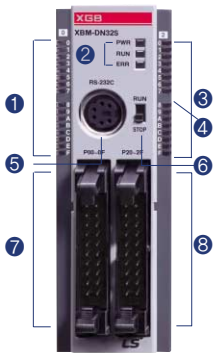
Perfomance specifications

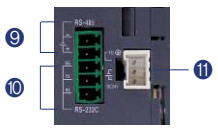
Item		Model		
		XBM-DR16S	XBM-DN16S	XBM-DN32S
Control method		Repetitive, cyclic, interrupt, constant scan		
I/O control mode		Refresh mode (Batch processing by scan synchronization)		
		Direct mode by instruction		
Programming language		Ladder Diagram, Instruction List		
No. of instructions		Basic : 28, Applied : 677		
Processing speed		0.16μs /Step (for basic instruction)		
Program capacity		10k steps		
Max. I/O points		480 points (Main + 7 expansions)		
Data memory	P	P0000 ~ P127F (2,048 points)		
	M	M0000 ~ M255F (4,096 points)		
	K	K00000 ~ K2559F (Special area : K2600~2559F) (40,960 points)		
	L	L00000 ~ L1279F (20,480 points)		
	F	F000 ~ F255F (4,096 points)		
	T	100ms, 10ms, 1ms : T000 ~ T255 (Changeable by Parameter setting)		
	C	C000 ~ C255		
	S	S00.00 ~ S127.99		
	D	D0000 ~ D5119 (5,120 word)		
	U	U00.00 ~ U07.31 (Analog data refresh area : 256 word)		
	Z	Z000~Z127 (128 word)		
	N	N0000~N3935 (3,936 word)		
Number of program		128		
Operation mode		RUN, STOP, DEBUG		
Self diagnosis		Operation delay monitoring, memory error, I/O error, battery error, power error, etc.		
Program port		RS-232C (Loader) Remote connection using RS-232C, RS-485		
Data retension at power failure		Latch range setting at Basic parameter		
Built-in function		RS-232C/485, High-speed counter, PID control, Pulse catch, Input filter		
		External interrupt, Positioning*1)		
Internal current consumption		400mA	280mA	300mA
Weight		100g		

*1) XBM-DR16S doesn't have built-in positioning function.

Names and Functions



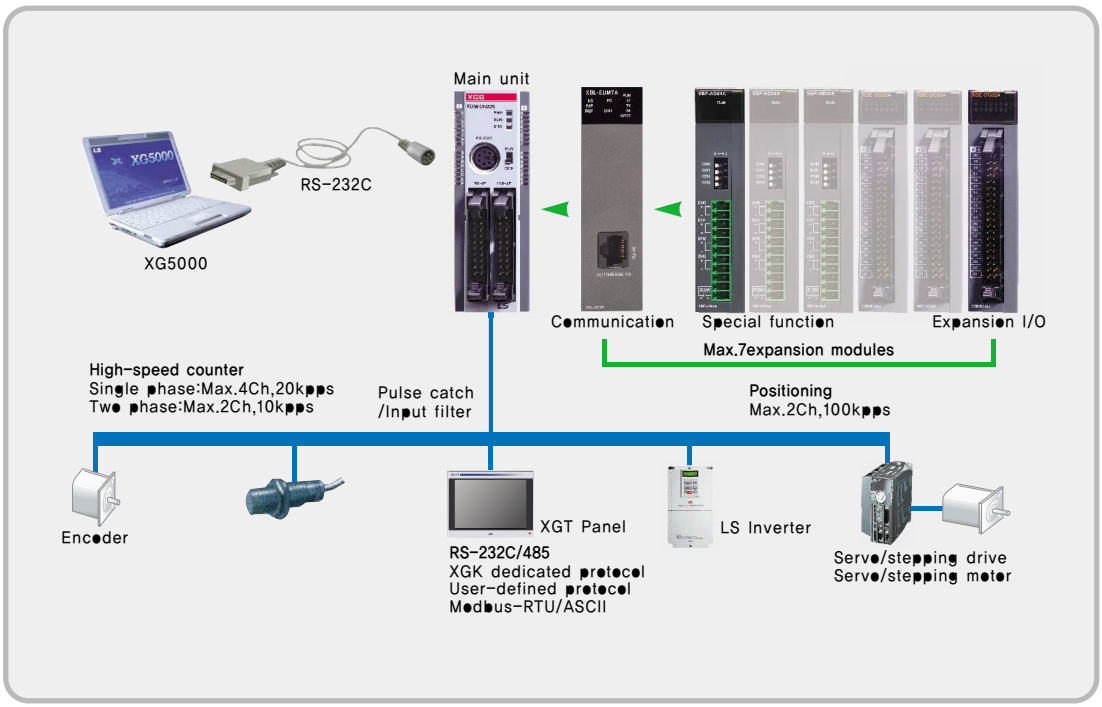




	Name	Descriptions	Descriptions	Remark
❶	Input LED	Input indication	Red On: Input signal On Red Off: Input signal Off	
❷	Condition LED	PWR: Power indication	Red On: Power On Red Off: Power Off	
		RUN: RUN indication	Green On: PLC Run Green Off: PLC Stop	
		ERR: Error indication	Red On-and-Off: PLC Error Red Off: PLC Normal condition	
❸	Output LED	Output LED	On: Output signal On Off: Output signal Off	
❹	Expansion module connector	Expansion module connector	Connection of expansion module (I/O, Spacial function, Communication)	
❺	PADT connector	PADT connection	Connector for XG5000/XG-PD connection	
❻	Mode switch	Mode setting	Setting Run/Stop mode of PLC	*1)
❼	Input connector /Terminal block	Input wiring connection	-	
❽	Output connector /Terminal block	Ouput wiring connection	-	
❾	Built-in RS-485 connector	Built-in RS-485 connection	RS-485 +/- terminal connection	
❿	Built-in RS-232C connector	Built-in RS-232C connection	RS-232C TxD, RxD, GND terminal connection	*2)
⓫	Power connector	Power supply connection	DC 24V power supply	*3)

*1) In the remote mode, set the mode switch to STOP.
*2) GND terminal of RS-232C can be used as GND terminal of RS-485.
*3) Select DC power supply considering current consumption of PLC system.

XGB system configuration



Input specifications

Specifications \ Model		DC Input						
		Main unit			Expansion module			
		XBM-DR16S	XBM-DN16S	XBM-DN32S	XBE-DC08A	XBE-DC16A	XBE-DC32A	XBE-DC64A
Input points		8points	8points	16points	8points	16points	32points	64points
Insulation method		Photocoupler insulation						
Rated input voltage/current		DC24V / 4mA (Contact 00~03: 7mA)			DC24V / 4mA			
Operation voltage range		DC20.4~28.8V (Ripple rate 〈 5%)						
On voltage/On current		DC19V or more / 3mA or more						
Off voltage/Off current		DC6V or less / 1mA or less						
Input resistance		5.6 kΩ (Contact 00~03: 3.3 kΩ)			5.6 kΩ			
Response time	Off→On	1/3/5/10/20/70/100ms (setting by CPU parameter) Initial value : 3ms						
	On→Off							
Insulation pressure		AC560Vrms / 3 Cycle (altitude 2000m)						
Insulation resistance		10MΩ or more by megger						
COMMON method		8 points/COM		16 points/COM	8 points/COM	16 points/COM	32 points/COM	
Proper cable size		Twisted wire 0.3~0.75mm² (external diameter ≤ 2.8mm)						
Operation indication		Input On LED On						
Internal current consumption		400mA	240mA	300mA	30mA	40mA	50mA	100mA
External connection method		9-pin terminal block	20-pin connector	20-pin connector	10-pin terminal block	8-pin + 10-pin terminal block	40-pin connector	40-pin connectorX2

TR output spcification

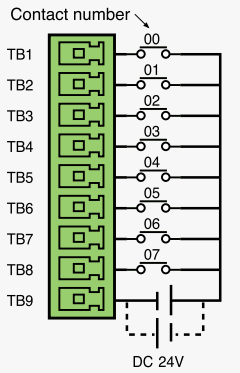
Specifications \ Model		Transistor output									
		XBM-DN16S	XBM-DN32S	XBE-TN08A	XBE-TP08A	XBE-TN16A	XBE-TP16A	XBE-TN32A	XBE-TP32A	XBE-TN64A	XBE-TP64A
Output point		8points	16points	8points		16points		32points		64points	
Insulation method		Photocoupler									
Rated load voltage		DC 12/24V									
Load voltage range		DC 10.2 ~ 26.4V									
Max. load current		0.2A/point	0.2A/point, 2A/COM	0.5A/1 point		0.2A/point, 2A/COM				0.1A/point, 2A/COM	
Off leakage current		0.1mA or less									
Max. voltage drop(On)		DC 0.4V									
Surge absorber		Zenor diode									
Response time	Off→On	1mA or less									
	On→Off	1ms or less (Rated load, resistive load)									
COMMON method		8points /COM	16points /COM	8points/COM		16points/COM		32points/COM			
Internal current consumption		180mA	200mA	40mA		60mA		120mA		200mA	
External power supply	Voltage	DC12/24V ± 10% (Ripple voltage ≤ 4 Vp-p)									
	Current	24mA or less (DC 24V connection)		10mA or less (DC 24V connection)				20mA or less (DC 24V connection)		40mA or less (DC 24V connection)	
Operation indicator		Output On, LED On									
External connection method		20-pin connector		10-pin terminal block		8-pin + 10-pin terminal block		40-pin connector		40-pin connector x 2	

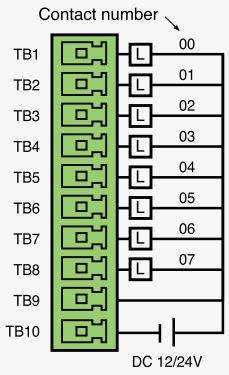
Relay output spcification

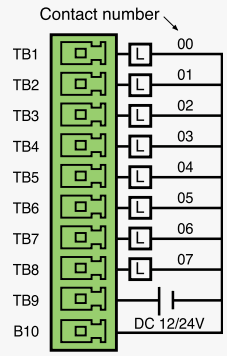
Specifications \ Model		Relay output		
		XBM-DR16S	XBE-RY08A	XBE-RY16A
Output point		8points	8points	16points
Insulation method		Relay insulation		
Rated load voltage/current		DC24V 2A(resistive load)/AC220V 2A(COSΨ = 1), 5A/COM		
Min. load voltage/current		DC5V/1mA		
Max. load voltage/current		AC250V, DC125V		
Off leakage current		0.1mA (AC220V, 60Hz)		
Max. on/off frequency		3,600 times/hr		
Surge absorber		None		
Service life	Mechanical	20 million times or more		
	Electrical	Rated load voltage/current 100,000 times or more		
		AC200V/1.5A, AC240V/1A (COSΨ = 0.7) 100,000 times or more		
		AC200V/1A, AC240V/0.5A (COSΨ = 0.35) 100,000 times or more		
		DC24V/1A, DC100V/0.1A (L / R = 7ms) 100,000 times or more		
Response time	Off→On	10 ms or less		
	On→Off	12 ms or less		
COMMON method		8 points/1COM		
Internal current consumption		360mA	230mA	420mA
Operation indicator		Output On, LED On		
External connection method		9-pin terminal block connector		9-pin terminal block connector x 2

Input & Output wiring

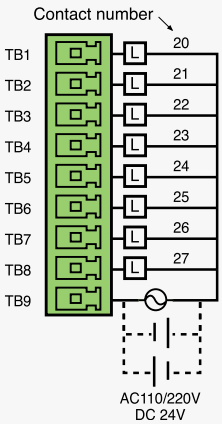
8-point DC input	8-point NPN output	8-point PNP output
XBM-DR16S	XBE-TN08A	XBE-TP08A

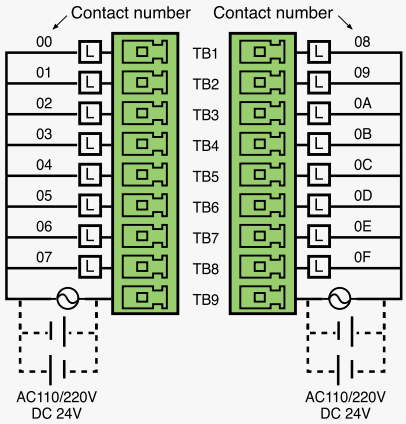






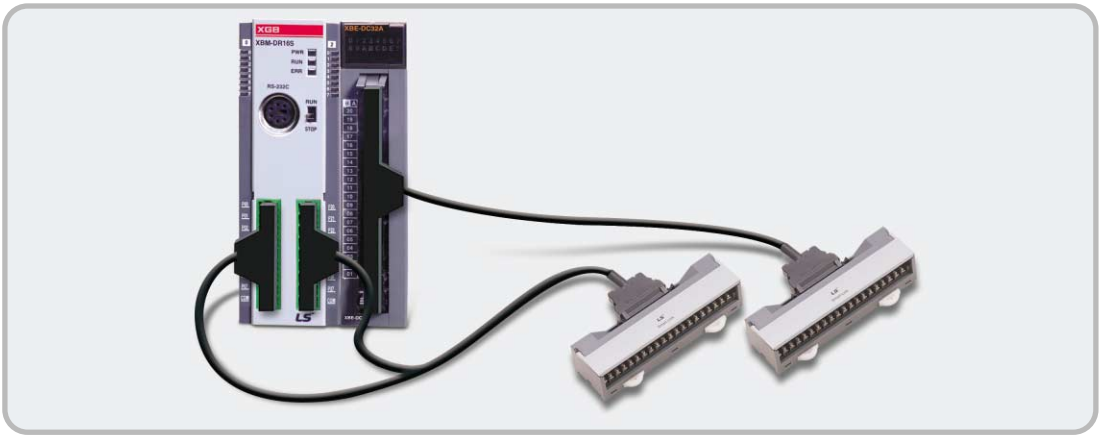
8-point Relay output	16-point Relay output
XBM-DR16S, XBE-RY08A*Note1)	XBE-RY16A





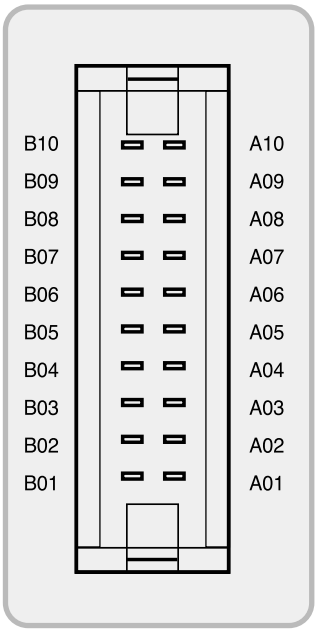
*Note1) The address of XBE-RY08A is assigned as contact point 00~07.

Wiring with Smart Link



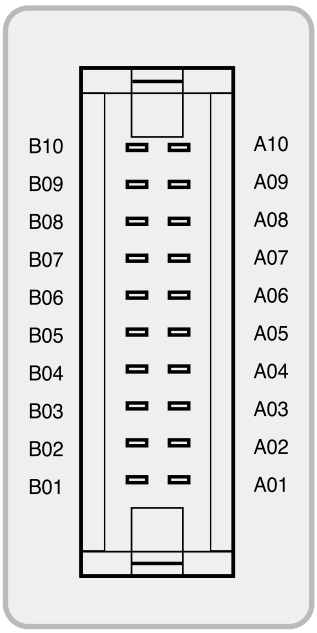
XGB module	Smart Link		Descriptions	Cable number	Cable specifications
Main unit (20+20 pin)	SLP-T40P	40 Pin	Main Unit I/O wiring	SLP-CT101-XBM	Soft tube type 1m
Expansion input(40 pin)		40 Pin	32/64-point expansion I/O wiring	SLP-CT101-XBE	Soft tube type 1m
Expansion output(40 pin)	SLP-RY4A	40 Pin	32/64-point expansion output wiring	SLP-CT101-XBE	Soft tube type 1m

20+20pin terminal layout (Input)



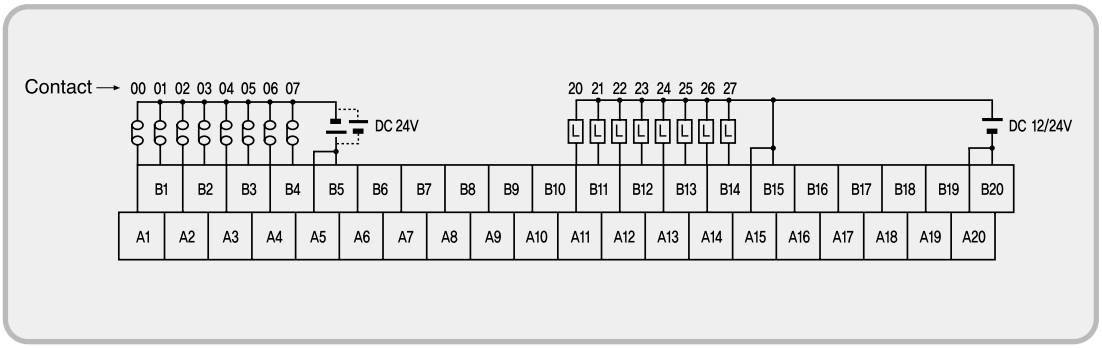
	PLC		Smart Link
Pin number	XBM-DN16S	XBM-DN32S	SLP-T40P
B10	00	00	A1
B09	01	01	B1
B08	02	02	A2
B07	03	03	B2
B06	04	04	A3
B05	05	05	B3
B04	06	06	A4
B03	07	07	B4
B02	COM 0	COM 0	A5
B01	COM 0	COM 0	B5
A10	NC	08	A6
A09	NC	09	B6
A08	NC	0A	A7
A07	NC	0B	B7
A06	NC	0C	A8
A05	NC	0D	B8
A04	NC	0E	A9
A03	NC	0F	B9
A02	NC	COM 1	A10
A01	NC	COM 1	B10

20+20pin terminal layout (Output)

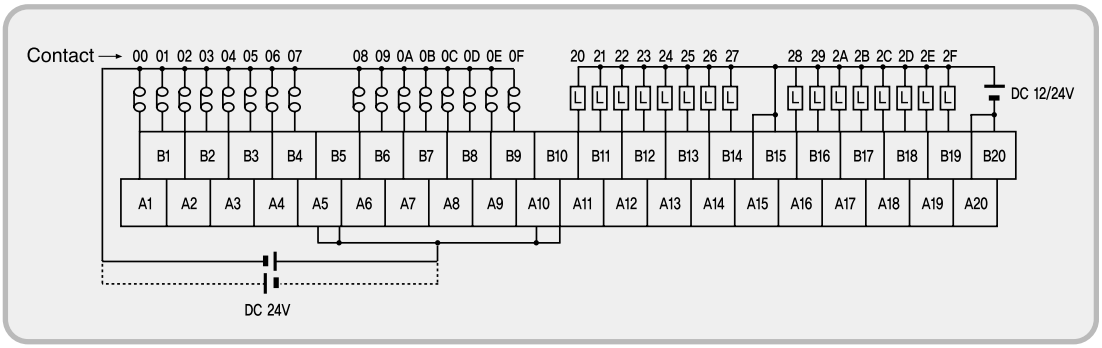


	PLC		Smart Link
Pin number	XBM-DN16S	XBM-DN32S	SLP-T40P
B10	20	20	A11
B09	21	21	B11
B08	22	22	A12
B07	23	23	B12
B06	24	24	A13
B05	25	25	B13
B04	26	26	A14
B03	27	27	B14
B02	+12/24V	+12/24V	A15
B01	+12/24V	+12/24V	B15
A10	NC	28	A16
A09	NC	29	B16
A08	NC	2A	A17
A07	NC	2B	B17
A06	NC	2C	A18
A05	NC	2D	B18
A04	NC	2E	A19
A03	NC	2F	B19
A02	COM 0	COM 0	A20
A01	COM 0	COM 0	B20

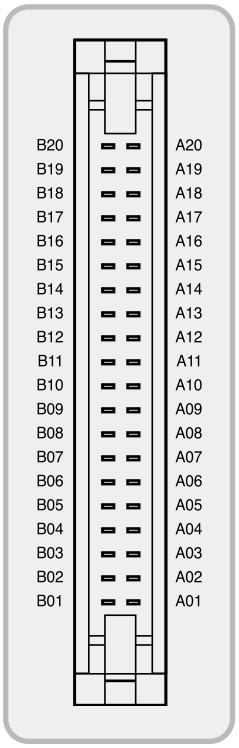
XBM-DN16S wiring diagram



XBM-DN32S wiring diagram



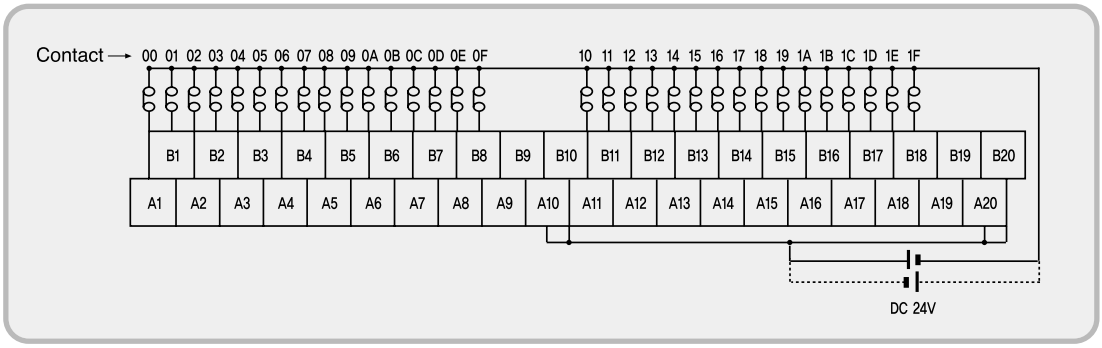
40+40pin terminal layout (Output)



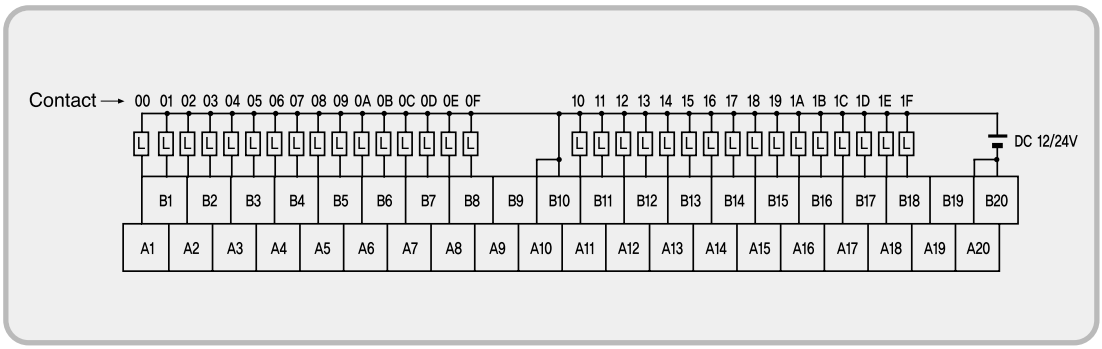
Pin number		PLC						Smart Link			
		XBE-DC32A*Note1) XBE-DC64A		XBE-TN32A*Note1) XBE-TN64A		XBE-TP32A*Note1) XBE-TP64A		SLP-T40P (I/O link terminal)		SLP-RY4A*Note2) (Relay output board)	
B20	A20	00(20)	10(30)	00(20)	10(30)	00(20)	10(30)	A1	A11	P00	P10
B19	A19	01(21)	11(31)	01(21)	11(31)	01(21)	11(31)	B1	B11	P01	P11
B18	A18	02(22)	12(32)	02(22)	12(32)	02(22)	12(32)	A2	A12	P02	P12
B17	A17	03(23)	13(33)	03(23)	13(33)	03(23)	13(33)	B2	B12	P03	P13
B16	A16	04(24)	14(34)	04(24)	14(34)	04(24)	14(34)	A3	A13	P04	P14
B15	A15	05(25)	15(35)	05(25)	15(35)	05(25)	15(35)	B3	B13	P05	P15
B14	A14	06(26)	16(36)	06(26)	16(36)	06(26)	16(36)	A4	A14	P06	P16
B13	A13	07(27)	17(37)	07(27)	17(37)	07(27)	17(37)	B4	B14	P07	P17
B12	A12	08(28)	18(38)	08(28)	18(38)	08(28)	18(38)	A5	A15	P08	P18
B11	A11	09(29)	19(39)	09(29)	19(39)	09(29)	19(39)	B5	B15	P09	P19
B10	A10	0A(2A)	1A(3A)	0A(2A)	1A(3A)	0A(2A)	1A(3A)	A6	A16	P0A	P1A
B09	A09	0B(2B)	1B(3B)	0B(2B)	1B(3B)	0B(2B)	1B(3B)	B6	B16	P0B	P1B
B09	A08	0C(2C)	1C(3C)	0C(2C)	1C(3C)	0C(2C)	1C(3C)	A7	A17	P0C	P1C
B07	A07	0D(2D)	1D(3D)	0D(2D)	1D(3D)	0D(2D)	1D(3D)	B7	B17	P0D	P1D
B06	A06	0E(2E)	1E(3E)	0E(2E)	1E(3E)	0E(2E)	1E(3E)	A8	A18	P0E	P1E
B05	A05	0F(2F)	1F(3F)	0F(2F)	1F(3F)	0F(2F)	1F(3F)	B8	B18	P0F	P1F
B04	A04	NC	NC	NC	NC	NC	NC	A9	A19	NC	NC
B03	A03	NC	NC	NC	NC	NC	NC	B9	B19	NC	NC
B02	A02	COM	COM	DC12/24V	COM	COM	0V	A10	A20	+24V	24G
B01	A01							B10	B20	+24V	24G

*Note1) The number inside ( ) is the address of 64-point I/O module.
*Note2) SLP-RY4A can be connected to only NPN transistor output module.

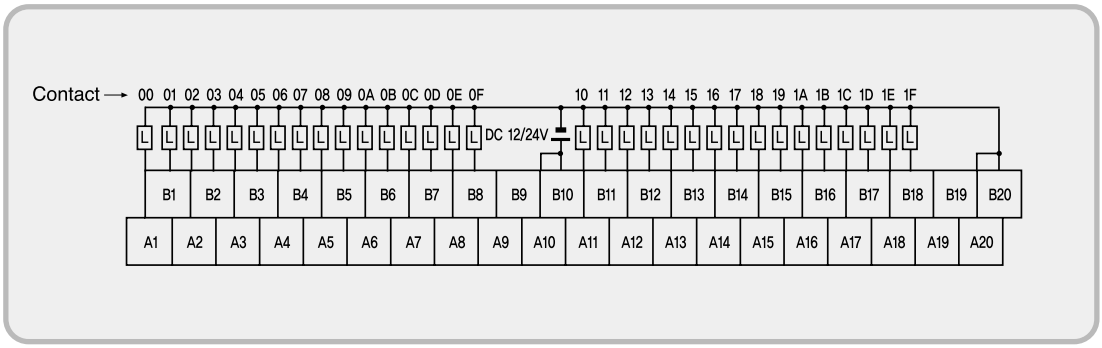
XBE-DC32A/64A Input wiring diagram



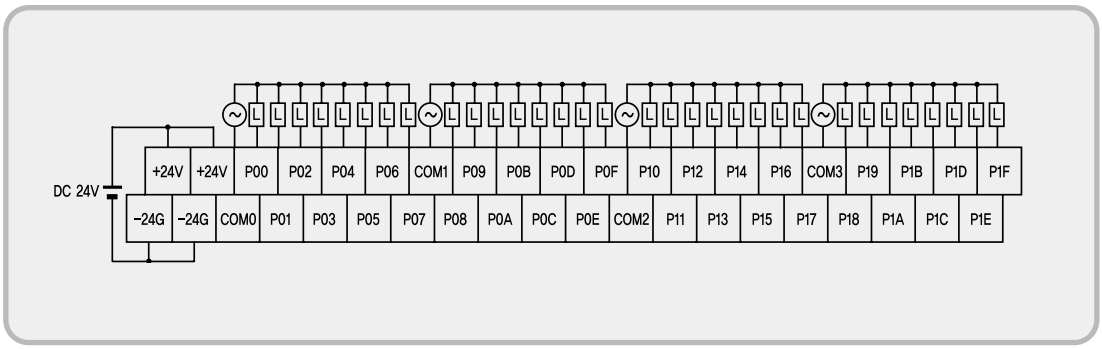
XBE-TN32A/64A Output wiring diagram (SLP-T40P)



XBE-TP32A/64A Output wiring diagram (SLP-T40P)

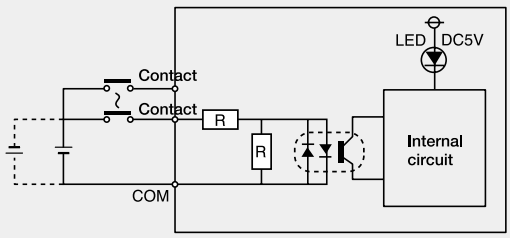


XBE-TN32A/64A Output wiring diagram (SLP-RY4A)

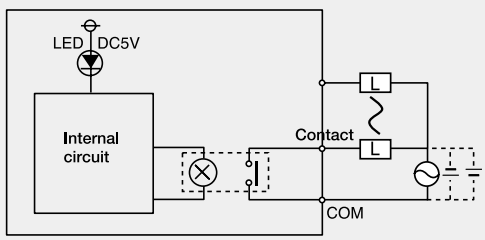


Input.Output circuit configuration

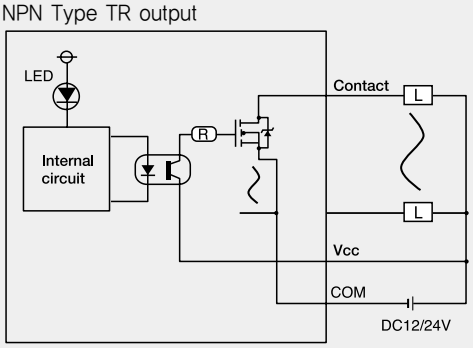
DC input circuit



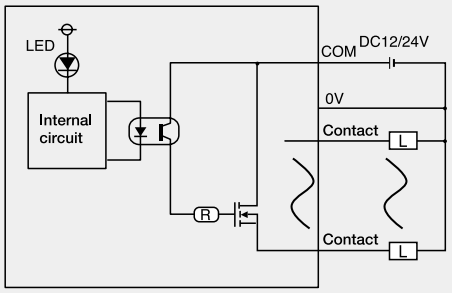
Relay output circuit



NPN Type TR output

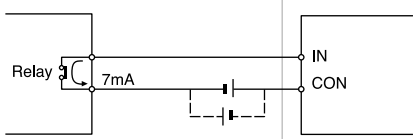
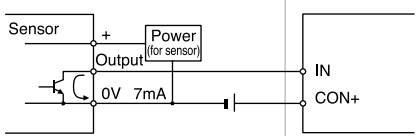
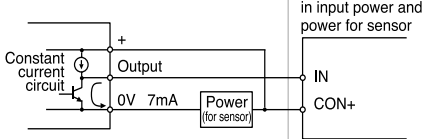
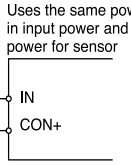


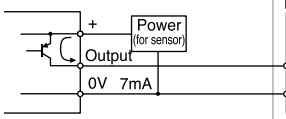
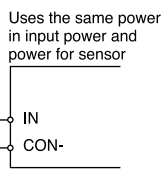
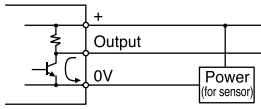
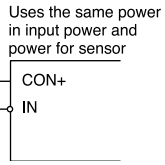
PNP Type TR output



Example of digital input connection

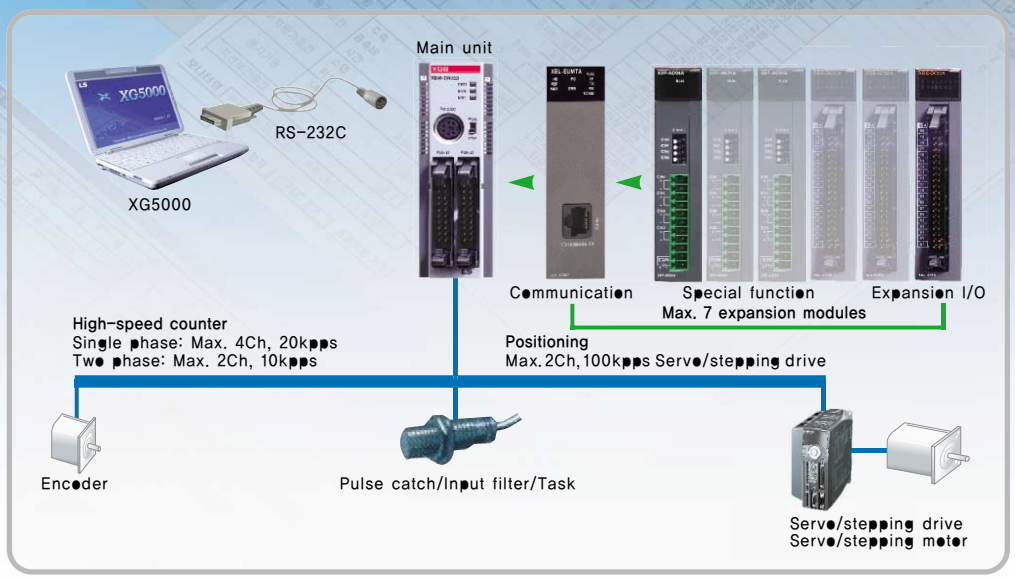
According to external equipment type, refer to the following connection between DC input part and external devices.

External equipment (I/Os)		Input part
Relay output type		
NPN Open collector output type		
NPN Current output type		

External equipment (I/Os)		Input part
PNP Current output type		
Voltage output type		

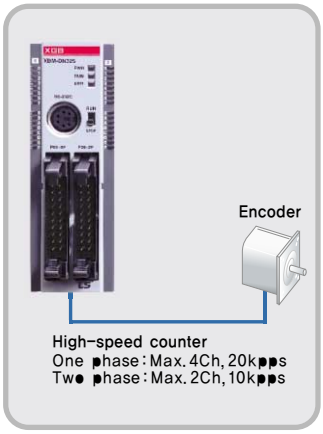
With XGB's various special functions,
you can configure
ALL-IN-ONE system.

Special functions



High-speed counter

High speed counter accurately counts the number of high speed pulse generated from encoder or pulse generator.



High-speed counter terminal

Terminal number	1-Phase		2-Phase	
	Signal name	Description	Signal name	Description
000	Ch0 counter input	Counter input	Ch0 A-axis input	A-axis input
001	Ch1 counter input	Counter input	Ch0 B-axis input	B-axis input
002	Ch2 counter input	Counter input	Ch2 A-axis input	A-axis input
003	Ch3 counter input	Counter input	Ch2 B-axis input	B-axis input
004	Ch0 preset24V	Preset input	Ch0 preset24V	Preset input
005	Ch1 preset24V	Preset input	-	-
006	Ch2 preset24V	Preset input	Ch2 preset24V	Preset input
007	Ch3 preset24V	Preset input	-	-
COM0	Input COMMON	COMMON	Input COMMON	COMMON

Function specifications

Functions	Specifications
Pulse input mode	• Incremental/Decremental counter by program when input is 1-phase pulse
	• Incremental/Decremental counter by B-axis input when input is 1-phase pulse
	• Incremental/Decremental counter by Incremental/ Decremental input when input is 2-phase pulse
	• Incremental/Decremental counter (4 multiplication) by phase difference when input is 2-phase pulse
	• Incremental counter by CW/CCW input
Counter mode	• Linear counter
	• Ring counter : Counter rotating between value in 0 ~ (Ring counter setting value-1)
Present value preset	• Changes present value of counter to optional value - Internal preset / External preset
Comparison output	• Sets output contact when counter value corresponds with comparison output condition - Comparison output condition : 〉, 〉=, =, 〈=, 〈, inclusion, exclusion
No. of rotation	• Outputs the rotation number of input pulse per unit time

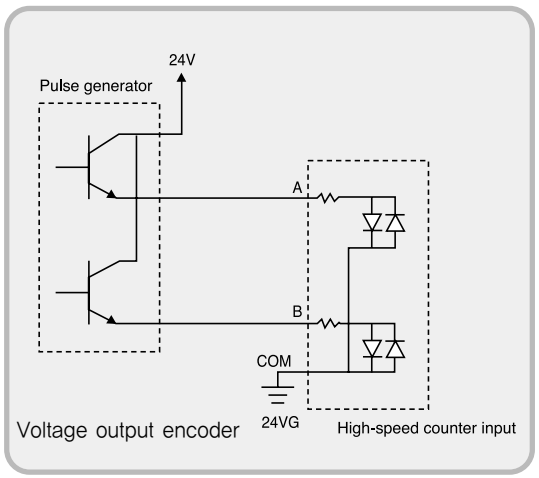
Performance specifications

Performance	Specifications
No. of points	1-phase 4points, 2-phase 2points
Input points	A phase, B phase, Preset input
Counting range	Linear counter: -2,147,483,648 ~ 2,147,483,647 (Binary 32Bit)
	Ring counter: 0 ~ 2,147,483,647
Counting speed	1-phase 20kpps/2-phase 10kpps
Incrementalal functions	Ring counter, preset , Rotation number per unit time , Comparison output, Latch counter

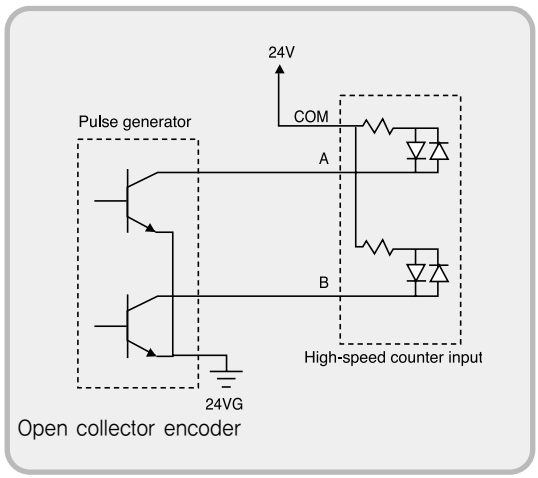
Electrical specifications

Item	Specifications
Input voltage	DC 24V (20.4V ~ 28.8V)
Input current	7mA
On guaranteed voltage (Minimum)	DC 20.4V
Off guaranteed voltage (Maximum)	DC 6V

Encoder wiring



Voltage output encoder



Open collector encoder

High-speed counter setting

Operation setting address of high-speed counter

Item	Device range for each channel				Remark
	Ch1	Ch2	Ch3	Ch4	
Counter enable	K2600	K2700	K2800	K2900	Bit
Counter internal preset assignment	K2601	K2701	K2801	K2901	Bit
Counter external preset enable	K2602	K2702	K2802	K2902	Bit
Substraction counter assignment	K2603	K2703	K2803	K2903	Bit
Comparison output enable	K2604	K2704	K2804	K2904	Bit
Rotation number per unit time enable	K2605	K2705	K2805	K2905	Bit
Latch counter enable	K2606	K2706	K2806	K2906	Bit
Carry signal(Bit)	K2610	K2710	K2810	K2910	Bit
Borrow signal	K2611	K2711	K2811	K2911	Bit
Comparison output signal	K2612	K2712	K2812	K2912	Bit

Parameter setting address of high-speed counter

Item	Descriptions		Device range for each channel				Remark
	Setting value	Setting descriptions	Ch0	Ch1	Ch2	Ch3	
Counter type selection	h0000	Linear counter setting	K300	K330	K360	K390	Word
	h0001	Ring counter setting					
Pulse input mode setting	h0000	1phase 1input 1multiplication	K301	K331	K361	K391	Word
	h0001	1phase 2input 1multiplication					
	h0002	CW/CCW					
	h0003	2phase 4multiplication					
Comparison output mode setting	h0000	(Single comparison) 〈	K302	K332	K362	K392	Word
	h0001	(Single comparison) ≤					
	h0002	(Single comparison) =					
	h0003	(Single comparison) ≥					
	h0004	(Single comparison) 〉					
	h0005	(Section comparison) Inclusion					
	h0006	(Section comparison) Exclusion					
Internal preset value setting	−2,147,483,648 ~ 2,147,483,647		K304	K334	K364	K394	Double word
External preset value setting	−2,147,483,648 ~ 2,147,483,647		K306	K336	K366	K396	Double word
Max. Ring counter value setting	−2,147,483,648 ~ 2,147,483,647		K310	K340	K370	K400	Double word
Min. Comparison output value setting	−2,147,483,648 ~ 2,147,483,647		K312	K342	K372	K402	Double word
Max. Comparison output value setting	−2,147,483,648 ~ 2,147,483,647		K314	K344	K374	K404	Double word
Comparison output contact assignment	0x0000	P20	K320	K350	K380	K410	Word
	0x0001	P21					
	0x0002	P22					
	0x0003	P23					
	0x0004	P24					
	0x0005	P25					
	0x0006	P26					
	0x0007	P27					
Rotation number setting per unit time	0 ~ 60000		K322	K352	K382	K412	Double word
Pulse number setting per rotation	0 ~ 60000		K323	K353	K383	K413	Double word

High-speed counter monitoring

• **Special function Monitoring**

Special function Monitoring in XG5000 can monitor operation condition and data of high speed counter while PLC is On-line.

• **Device Monitoring**

While PLC is On-line, Device Monitoring can monitor the operation condition and data by monitoring the Device setting area.

Parameter setting address of high-speed counter

Item	Device range for each channel				Remark
	Ch1	Ch2	Ch3	Ch4	
Present counter value	K262	K272	K282	K292	Double word
No. of rotations per unit time	K264	K274	K284	K294	Double word
Error code	K266	K276	K286	K296	word

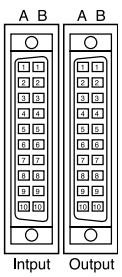
Error code of high-speed counter

Error code (decimal)	Error description
20	Out of counter type range
21	Out of pulse input type range
22	When requesting RUN of CH1[3] during 2-phase operation of CH0[2] (Use of CH1[3] is not available during 2-phase operation of CH0[2])
23	Out of Comparison output type range
25	Internal preset value setting error (Out of counter range)
26	External preset value setting error (Out of counter range)
27	Ring counter setting error (Ring counter value should be set as 2 or more)
28	Comparison minimum value setting error (Out of maximum input range)
29	Comparison maximum value setting error (Out of maximum input range)
30	Minimum comparison output 1 〉 Maximum comparison output 1
31	Contact assignment value setting error of comparison output
34	Out of unit time setting range
35	Out of pulse value range per rotation

Positioning

Positioning function is to control servo/stepping motor connected to servo/stepping drive by supplying high-speed pulse to the drive.

Positioning function terminal



Pin layout	Item	Pin number X axis	Pin number Y axis	Signal name		Direction of positioning signal to external	Operating condition
	Output	A1	A2	Pulse	Pulse output (Open collector)	→	-
		A3	A4	Direction	Pulse output (Open collector)	→	-
		A9/A10		DC 24V	External 24V power supply	→	-
		B9/B10		Output COM	External 24V GND	→	-
	Input	A1	A3	Limit L	Low limit	←	Edge
		A2	A4	Limit H	High limit	←	Edge
		A5	A7	DOG	Near point	←	Edge
		A6	A8	Zero	Zero signal (+24V)	←	Edge
		A9/A10, B9/B10		Input COM	Common	←	-

Performance specifications

Item		Description	Remark
No. of control axis		2 axes	-
Interpolation		2-axis linear interpolation	-
Control mode		Position control, Speed control, Speed/Position switching control, Position/speed switching control	-
Control unit		Pulse	-
Positioning data		30-step pattern for each axis (set in XG5000) (operation step number : 1 ~ 30)	-
Positioning monitor		Dedicated monitoring function for positioning in XG5000	-
Back-up		Permanent Backup of downloaded parameter (FLASH memory)	-
		2-month Super Cap. Backup of parameter/data modified during operation (RAM)	-
		Permanent Backup of parameter/data in RAM by instruction (FLASH memory)	-
Positioning	Positioning method	Absolute / incremental method	-
	Positioning range	-2,147,483,648 ~ 2,147,483,647	-
	Speed range	1 ~ 100,000(pulse/sec)	-
	Acceleration / Deceleration type	Trapezoidal acceleration / deceleration	-
	Acceleration / Deceleration time	1 ~ 10,000ms (4 patterns each can be set)	-
Max. output pulse		100 Kpps	-
Max. distance of connection		2m	-

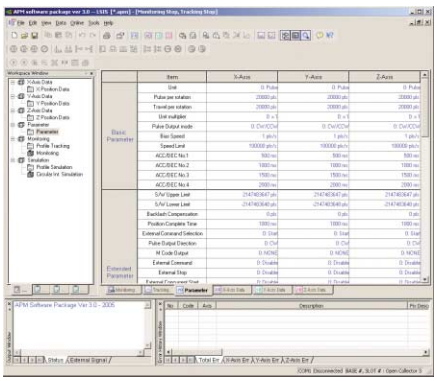
Electric specifications

Output	Signal	Rated input voltage	Load voltage range	Max. load current/ inrush current	Max. voltage drop (On)	Leakage current (Off)	Response time
	Output pulse	DC 5~24V	DC 4.75~26.4V	100mA (1 point)1A/ 10ms or less	DC 0.3V or less	0.1mA or less	100μs or less
Input	**Signal**	**Rated input voltage/current**	**Load voltage range**	**On voltage/ current**	**Off voltage/ current**	**Input resistance**	**Response time**
	External high limit	DC 24V/7mA	DC 20.4 ~28.8V	DC 19V/5.7mA or more	DC 6V/1.8mA or less	3.3kΩ	0.5ms or less
	External low limit						
	Approximate zero	DC 24V/4mA		DC 19V/3.4mA or more	DC 6V/1.1mA or less	5.6kΩ	
	Zero						

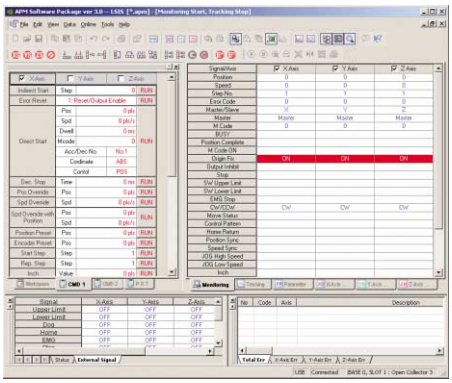
setting and operation of Positioning

Parameter setting and test operation

After setting and downloading positioning parameters, test operation is available through command setting window in positioning monitoring.



Positioning parameter setting



Test operation by command setting window

Storage range of positioning parameter

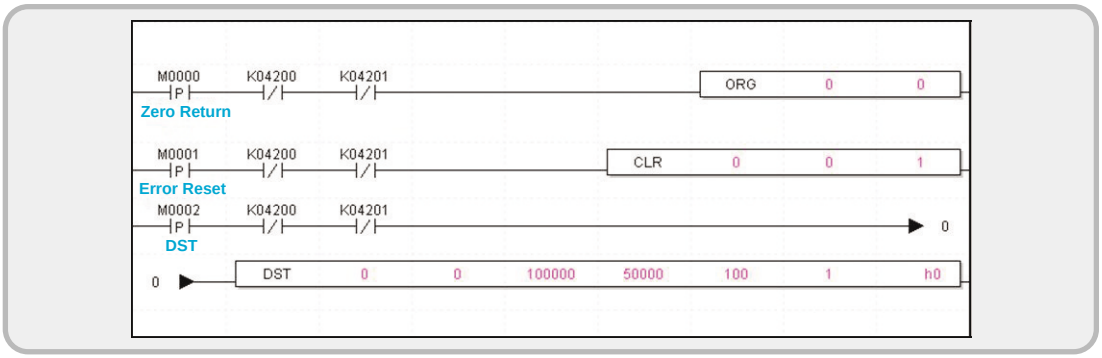
Assigned parameters are stored in the following memory range. While operating PLC, these parameters can be changed by changing data in corresponding range.

	Item	Setting range	Initial value	Device range		Remark
				X axis	Y axis	
Basic parameter	Positioning	0 : disabled, 1 : enabled	0	K4870	K5270	Bit
	Pulse output level	0 : Low active, 1 : High active	0	K4871	K5271	Bit
	Bias Speed	1 ~ 100,000 [pulse/sec]	1	K450	K490	Double word
	Speed limit	1 ~ 100,000 [pulse/sec]	100,000	K452	K492	Double word
	Acceleration time 1	0 ~ 10,000 [Unit:ms]	500	K454	K494	Word
	Deceleration time 1	0 ~ 10,000 [Unit:ms]	500	K455	K495	Word
	Acceleration time 2	0 ~ 10,000 [Unit:ms]	1,000	K456	K496	Word
	Deceleration time 2	0 ~ 10,000 [Unit:ms]	1,000	K457	K497	Word
	Acceleration time 3	0 ~ 10,000 [Unit:ms]	1,500	K458	K498	Word
	Deceleration time 3	0 ~ 10,000 [Unit:ms]	1,500	K459	K499	Word
	Acceleration time 4	0 ~ 10,000 [Unit:ms]	2,000	K460	K500	Word
	Deceleration time 4	0 ~ 10,000 [Unit:ms]	2,000	K461	K501	Word
	Soft high limit	-2,147,483,648~2,147,483,647[pulse]	2147483647	K462	K502	Double word
	Soft low limit	-2,147,483,648~2,147,483,647[pulse]	-2147483648	K464	K504	Double word
	Backlash compensation amount	0 ~ 65,535 [pulse]	0	K466	K506	Word
	Detection of soft high/low limit during equal speed operation	0 : disabled, 1 : enabled	0	K4684	K5084	Bit
	Use of high / low limit	0 : disabled, 1 : enabled	1	K4872	K5272	Bit
Zero/ manual parameter	Zero address	-2,147,483,648~2,147,483,647[pulse]	0	K469	K509	Double word
	Zero-return high speed	1 ~ 100,000 pulse/sec	5,000	K471	K511	Double word
	Zero-return low speed	1 ~ 100,000 pulse/sec	500	K473	K513	Double word
	Zero-return Acceleration time	0 ~ 10,000 [Unit:ms]	1,000	K475	K515	Word
	Zero-return Deceleration time	0 ~ 10,000 [Unit:ms]	1,000	K476	K516	Word
	Zero-return dwell time	0 ~ 50,000 [Unit:ms]	0	K477	K517	Word
	Zero-return method	0 : Zero detection after near zero OFF 1 : Zero detection after deceleration when near zere is ON 2 : Zero detection by near zero	0	K4780 K4781	K5180 K5181	Word
	Zero-return direction	0 : Forward, 1 : Reverse	1	K4782	K5182	Bit
	JOG high Speed	1 ~ 10,000 pulse/sec	5,000	K479	K519	Double word
	JOG low Speed	1 ~ 10,000 pulse/sec	1,000	K481	K521	Double word
	JOG Acceleration time	0 ~ 65535 [Unit:ms]	1,000	K483	K523	Word
	JOG Deceleration time	0 ~ 65535 [Unit:ms]	1,000	K484	K524	Word
	Inching speed	1 ~ 65,535 [pulse/sec]	100	K485	K525	Word

setting and operation of Positioning

Operation command using programming

Writes a positioning program using positioning flag and its dedicated instructions.



Positioning dedicated instruction

Instruction *1)	Descriptions	Instruction Operand *1)
ORG	Zero return start	Slot, Instruction axis
FLT	Floating-point zero setting	Slot, Instruction axis
DST	Direct start	Slot, Instruction axis, Position, Speed, Dwell time, M code, Control word
IST	Indirect start	Slot, Instruction axis, Step number
LIN	Linear interpolation start	Slot, Instruction axis,step number, Axis information
SST	Simultaneous start	Slot, Instruction axis, X-axis step number, Y-axis step number, Z-axis step number, Axis information
VTP	Speed/Position conversion	Slot, Instruction axis
PTV	Position/Speed conversion	Slot, Instruction axis
STP	Stop	Slot, Instruction axis, Deceleration
SSP	Position synchronization	Slot, Instruction axis, Step number, Master-axis position, Master-axis setting
SSS	Speed synchronization	Slot, Instruction axis, Master-axis ratio, Slave-axis ratio, Master-axis setting
POR	Position override	Slot, Instruction axis,position
SOR	Speed override	Slot, Instruction axis,speed
PSO	Positioning speed override	Slot, Instruction axis,position,speed
INCH	Inching	Slot, Instruction axis, Inching amount
MOF	M code off	Slot, Instruction axis
PRS	Present position preset	Slot, Instruction axis,position
EMG	Emergency stop	Slot, Instruction axis
CLR	Error reset, Output disable annulment	Slot, Instruction axis, Pulse output enable / disable
WRT	Parameter/Operation data saving	Slot, Instruction axis,-axis information

*1) In instruction, the slot should be assigned as number '0'.

Operation data range for Positioning

Step number	Item	Specification	Intial value	Device range		Remark
				X-axis	Y-axis	
1	Coordinates	0 : Absolute, 1 : Relative	Absolute	K5384	K8384	Bit
	Operation pattern	0 : End, 1 : Continue, 2 : Repeat	End	K5382~3	K8382~3	Bit
	Control method	0 : Positon control, 1 : Speed control	Position	K5381	K8381	Bit
	Operation method	0 : Single operation, 1 : Repeated operation	Single	K5380	K8380	Bit
	Repeating step	0 ~ 30	0	K539	K839	word
	Targeted position	-2,147,483,648 ~ 2,147,483,647 [pulse]	0	K530	K830	Double word
	M Code number	0 ~ 65,535	0	K537	K837	word
	Accel/Decel number	0 : Number 1, 1: Number 2, 2: Number 3, 3: Number	0	K5386 K5387	K8386 K8387	Bit Bit
	Operation speed	1 ~ 100,000 [pulse/sec]	0	K534	K834	Double word
	Dwell time	1 ~ 50,000 [pulse/sec]	0	K536	K836	word
2	Same items as Step number 0			K540~549	K840~849	-
3	Same items as Step number 0			K550~559	K850~859	-
4~29	Same items as Step number 0			K560~810	K860~1119	-
30	Same items as Step number 0			K820~829	K1120~1129	-

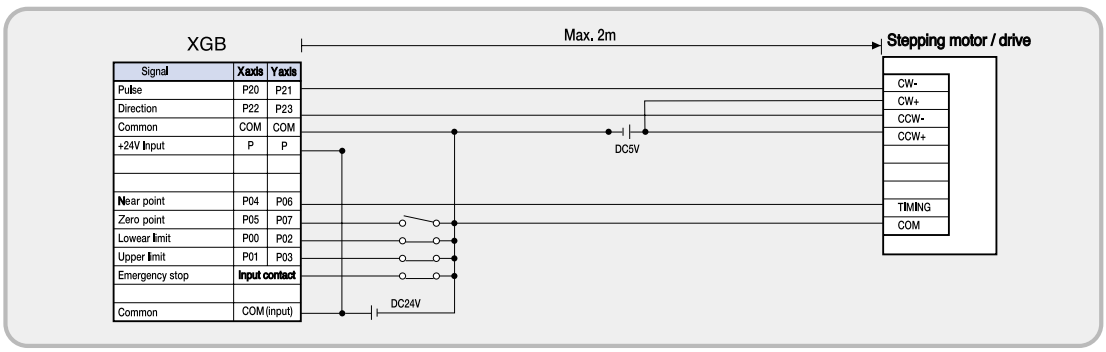
Monitoring for Positioning

Operation monitoring range for Positioning

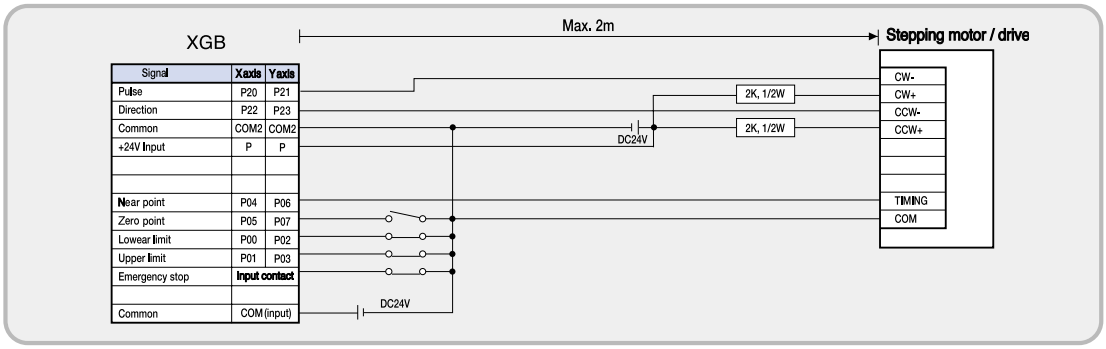
Item	Device range						Remark
	X axis			Y axis			
	Word	Bit	Address	Word	Bit	Address	
Busy signal	K420	0	K4200	K430	0	K4300	Operation monitoring
ERROR		1	K4201		1	K4301	
Positioning completed		2	K4202		2	K4302	
M code On		3	K4203		3	K4303	
Zero determination		4	K4204		4	K4304	
Output disable		5	K4205		5	K4305	
Stop		6	K4206		6	K4306	
High limit detection		8	K4208		8	K4308	
Low limt detection		9	K4209		9	K4309	
Emergency stop		A	K420A		A	K430A	
Forward/Reverse rotation		B	K420B		B	K430B	
Operation (acceleration)		C	K420C		C	K430C	
Operation (fixed speed)		D	K420D		D	K430D	
Operation (deceleration)		E	K420E		E	K430E	
Operation (dwell)		F	K420F		F	K430F	
Operation control (position control)	K421	0	K4210	K431	0	K4310	
Operation control (speed control)		1	K4211		1	K4311	
Operation control (linear interpolation)		2	K4212		2	K4312	
Zero return		5	K4215		5	K4315	
Position synchronization		6	K4216		6	K4316	
Speed synchronization		7	K4217		7	K4317	
JOG low speed		8	K4218		8	K4318	
JOG high speed		9	K4219		9	K4319	
Inching		A	K421A		A	K431A	
Present position	K422	–	K422	K432	–	K432	
Present speed	K424	–	K424	K434	–	K434	
Step number	K426	–	K426	K436	–	K436	
Error code	K427	–	K427	K437	–	K437	
M code	K428	–	K428	K438	–	K438	
JOG operation (start)	K429	0	K4290	K439	0	K4390	JOG command
JOG forward operation		1	K4291		1	K4391	
JOG reverse operation		2	K4292		2	K4392	
JOG low/high speed		3	K4293		3	K4393	

Wiring

Wiring with DC 5V



Wiring with DC 24V



PID control

Features

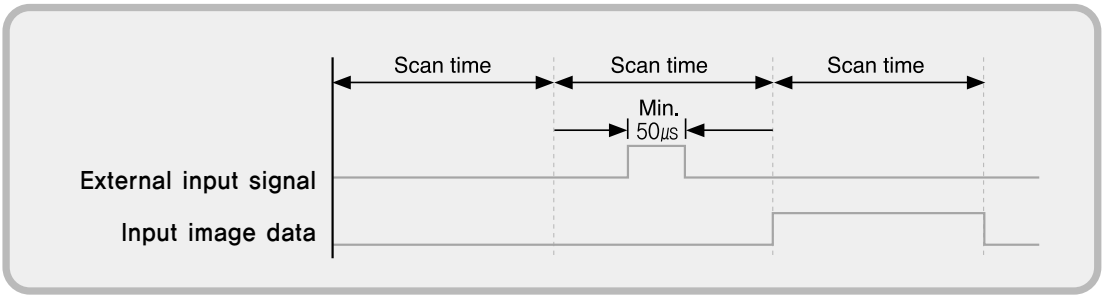
- Built-in PID control function in XGB's main unit.
- Various control operation (P, PI, PD, PID, On/Off)
- PWM (Pulse Width Modulation) output of control result
- Forward, Reverse, Forward/Reverse Mixed Operation
- Enhanced responsivity to disturbance with cascade loop
- Available to use 2 set values and PID parameter simultaneously according operation zone
- Various PID control configurations with its SV Ramp, PV Tracking, Delta MV, MV Preset, alarm functions

Performance specifications

Item		Specification
No. of control loop		16-loop independent control
Control mode		P control, PI control, PD control, PID control
Control period		10ms ~ 6,563.5ms (Setting unit : 0.1ms)
Function	Forward/Reverse Mixed control	Switching control direction automatically when exceeding dead band
	Cascade	Improved control precision by serial connection between Master loop and Slave loop
	SV Ramp	Preventing overload caused by excessive SV change by setting variation slope
	Alarm	Improved control stability with various alarm function such as MV high limit/low limit, PV high limit/low limit, PV variation width
	Auto tuning	Auto tuning with improved auto-tuning algorithm
	Additional function	PWM output, PV Tracking, ΔMV, ΔPV, etc

Pulse catch

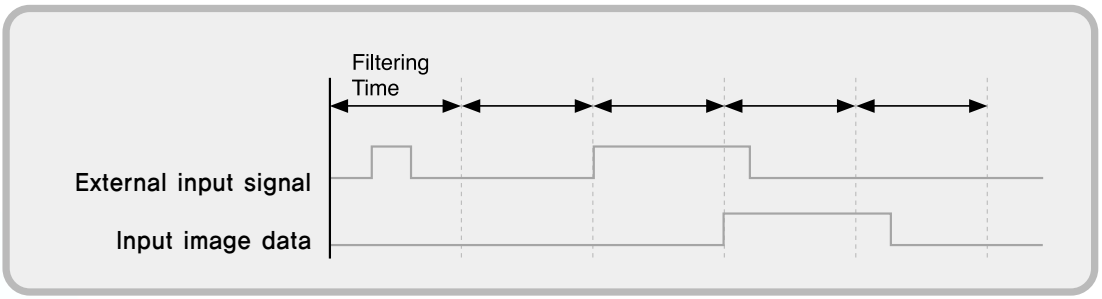
When the On-condition time of input signal (P0000~P0007) is shorter than 1 scan time (Min. 50㎲), Pulse catch processes the input signal as normal input.



Item	Specifications
No. of setting points	8 points : P000 ~ P007
Min. pulse width	50㎲

Input filter

Input filter prevents processing of the input signal that is shorter than the filtering time. (Filtering time is set by parameter) In the application site where noise is frequently generated, input filter prevents wrong input caused by noise.



Item	Specifications
No. of setting points	Every input contact
Input filtering time setting	Assigning for each module
Setting range	1 ~ 100㎳ (1,3,5,10,20,70,100)

Task

Task function is the processing method of internal/external signal generated preriodically or aperiodically. (Total 24 task can be assigned.) It stops operation of scan program for the moment and then execute the assigned task.

Types of Task

1. Initialization task setting

Running a task one time before INIT_DONE at initial execution

2. Fixed-cycle task setting

Item	Description
No. of setting points	8 points
Setting range	1~42,94,967,295㎳

3. External points task setting

Item	Description
No. of setting points	8 points : P000 ~ P007
Min. pulse width	Min. 50㎲
Condition	Up, Down, Change

4. Internal device task setting

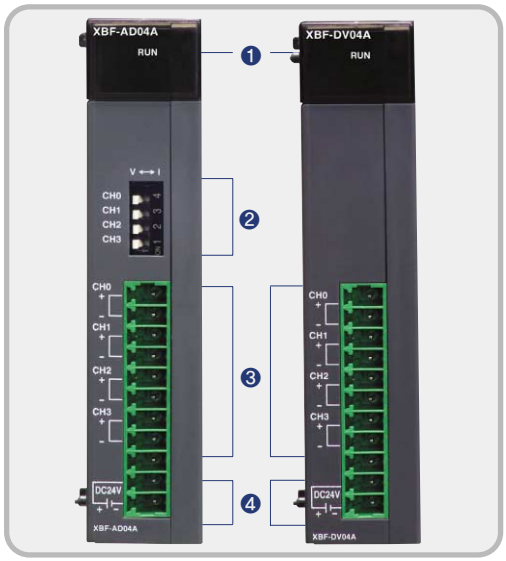
Item	Description
No. of setting points	8 points
Condition	Up, Down, Change, On, Off

Analog input / output

Performance specifications

Item	Specifications					
	Analog input					Analog output
	XBF-AD04A					XBF-DV04A
Analog range	DC 0 ~ 10 V (input resistance: 1 MΩ min.) DC 4 ~ 20 mA DC 0 ~ 20 mA (input resistance 250 Ω)					DC 0 ~ 10V(Load resistance ≥ 1kΩ)
Analog range selection	• Analog input range can be selected by user(sequence) program or I/O parameter in XG5000. • Each input range can be set for each channel.					-
Digital data	Analog range	0~10 V	4~20 mA	0~20 mA		0 ~ 10 V
	Unsigned Value	0 ~ 4000				0 ~ 4000
	Signed Value	-2000 ~ 2000				-2000 ~ 2000
	Precise Value	0~1000	400~2000	0~2000		0 ~ 1000
	Percentile Value	0 ~ 1000				0 ~ 1000
	Data format of digital output is set by user program or software package. (Setting for each channel is available.)					
Resolution	Analog input	Resolution (1/4000)	Analog input	Resolution (1/4000)		Resolution (1/4000)
	0 ~ 10 V	2.5 mV	4 ~ 20mA	5.0 μA		2.5mV
			0 ~ 20mA			
Max. conversion speed	1.5ms / channel					1ms / channel
Max. absolute input/output	±15 V			±25mA		±15 V
Accuracy	±0.5% or less					±0.5% or less
Analog I/O channels	4 channel / module					
Insulation method	Photocoupler insulation between I/O terminal and power supply					
Connection terminal	11-point terminal block					
Occupied I/O points	Fixed type : 64 points					
Current consumption (DC 24V)	DC 24V : 80㎃ (External input)					DC 24V : 200㎃ (External input)

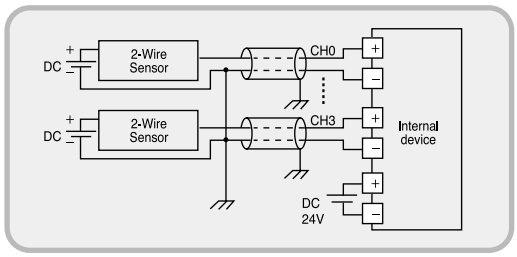
Names and Functions



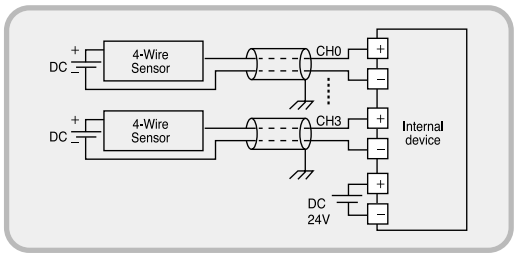
	Name	Descriptions
1	RUN LED	Indicates condition of module • LED On: Normal condition • LED On and Off: Error • LED Off: Power Off or module malfunction
2	Input selection switch	Voltage/Current selection termianl • V : Voltage input selection • I : Current input selection
3	External connection terminal	External device connection
4	External power supply terminal	External DC 24V input

Analog input wiring

Wiring with 2-wire sensor



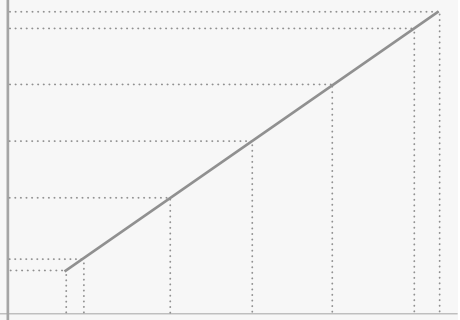
Wiring 4-Wire sensor



※ Use 22AWG, 2 conductor, twist shielded cable when wiring between analog module and external device.

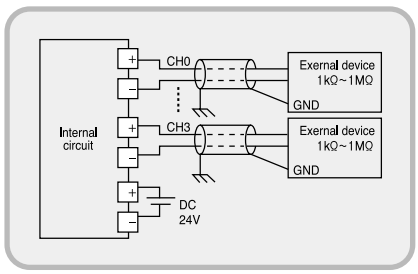
Analog/Digital conversion characteristics (XBF-AD04A)

Output value selection	Precise value			Percentile value	-2,000 ~ 2,000	0 ~ 4,000
	4~20mA	0~20mA	0~10V			
Digital output	2,023 2,000	2,023 2,000	1,011 1,000	1,011 1,000	2,047 2,000	4,047 4,000
	1,600	1,500	750	750	1,000	3,000
	1,200	1,000	500	500	0	2,000
	800	500	250	250	-1,000	1,000
	400 381	0	0	0	-2,000 -2,048 *Note1)	0 -48 *Note1)
Analog input	0~10V				0 2.5 5 7.5 10	
	0~20mA				0 5 10 15 20	
	4~20mA				4 8 12 16 20	

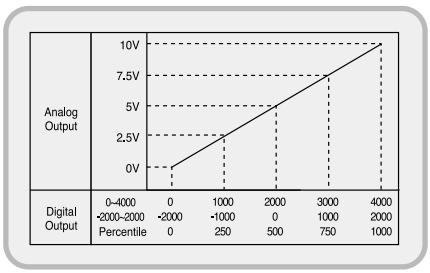


*Note1) supported in case analog input is 4~20mA

Analog output wiring



Digital / Analog conversion characteristics (XBF-DV04A)



Analog range for each module

XBF-AD04A

Device	Description	R/W
U0x.00.0	Module ERROR flag	R
U0x.00.F	Module READY flag	
U0x.01.0	Channel 0 operation flag	
U0x.01.1	Channel 1 operation flag	
U0x.01.2	Channel 2 operation flag	
U0x.01.3	Channel 3 operation flag	
U0x.02	Channel 0 digital output	
U0x.03	Channel 1 digital output	
U0x.04	Channel 2 digital output	
U0x.05	Channel 3 digital output	
U0x.11.0	ERROR clear request flag	W

XBF-DV04A

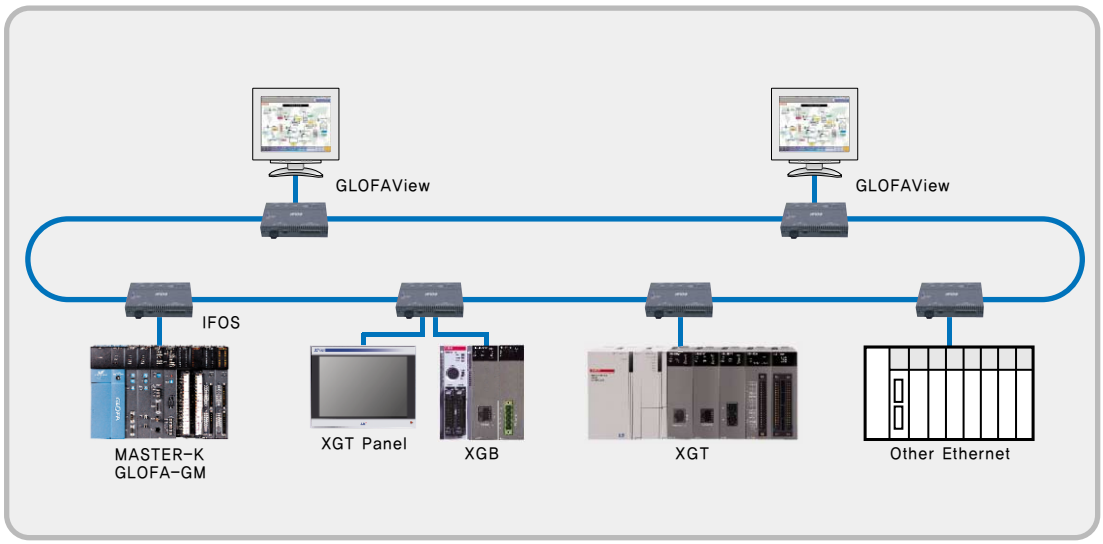
Device	Description	R/W
U0x.00.0	Module ERROR flag	R
U0x.00.F	Module READY flag	
U0x.01.0	Channel 0 operation flag	
U0x.01.1	Channel 1 operation flag	
U0x.01.2	Channel 2 operation flag	
U0x.01.3	Channel 3 operation flag	
U0x.02.0	Channel 0 output permission setting	W
U0x.02.1	Channel 1 output permission setting	
U0x.02.2	Channel 2 output permission setting	
U0x.02.3	Channel 3 output permission setting	
U0x.03	Channel 0 digital input value	
U0x.04	Channel 1 digital input value	
U0x.05	Channel 2 digital input value	
U0x.06	Channel 3 digital input value	

Fast ethernet

Features

- 10/100Base-Tx Fast Ethernet for industrial use (IEEE802.3)
- Dedicated service for HMI connection (XGT dedicated/MODBUS-TCP protocol)
- High-speed link communication with high-level PLC (XGT/MASTER-K/GLOFA-GM)
- Remote program, Remote monitoring with XG5000 remote service
- Network security with Host Table (limitation of unwanted connections)
- Convenient network system setting and various self-diagnosis/monitoring with XG-PD
  - Monitoring network information (Auto Scan)
  - Checking module in network (PING)
  - Providing information of each service
    (high-speed link, P2P, dedicated service, media condition)
- User protocol editing and P2P service (communication with other brand's equipment)

Network with ethernet



Performance specifications

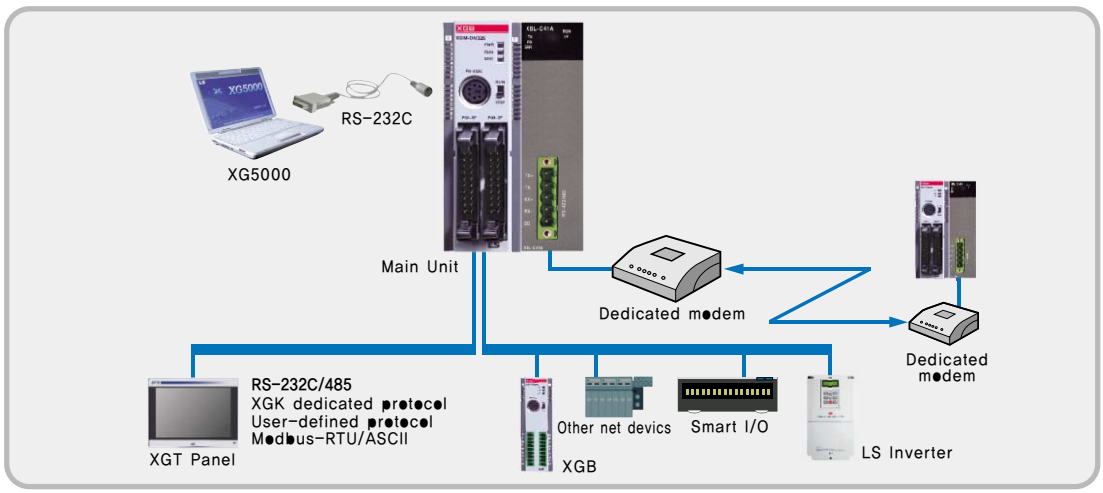
Item		XBL-EUMTA
Communication spec.		10/100BASE-TX
Protocol		TCP/IP, UDP/IP
Service	With LS PLCs	High-speed link, P2P service
	With other devices	P2P service
	Application	Dedicated protocal service, XG5000 service
HS link sending/receiving data		200words/block(Max.128blocks)
No. of channel connectable to upper stage		8 channels
Service		Communication with PC(HMI) and external devices, High-speed communication among LSIS PLCs
Media		UTP/STP Category 5
Current consumption (mA)		410

Cnet

Features

- Max. 2 module mountable for 1 main unit. Total 5 channels of communication in 1 XGB system. (including loader)
- Max. 32-unit connection through Cnet
- Protocol editing and parameter setting using XG-PD
- Flexible communication speed setting (300~115,200bps)
- Long-distance communication system using dedicated modem (expansion RS-232C Communication module)
- Full duplex/ Half duplex communication (expansion RS-422 Communication module)
- PTP : User-defined Communication and XGT/MODBUS Communication Master
- XGT dedicated/MODBUS-RTU/ASCII drivers for HMI connection
- Various diagnosis functions using XG-PD (I/O information, CPU, Link, Service, LOG)
- Simultaneous monitoring of sending/receiving frame and checking the result of frame
- Communication service information (Checking information of dedicated service, P2P service)

System configuration

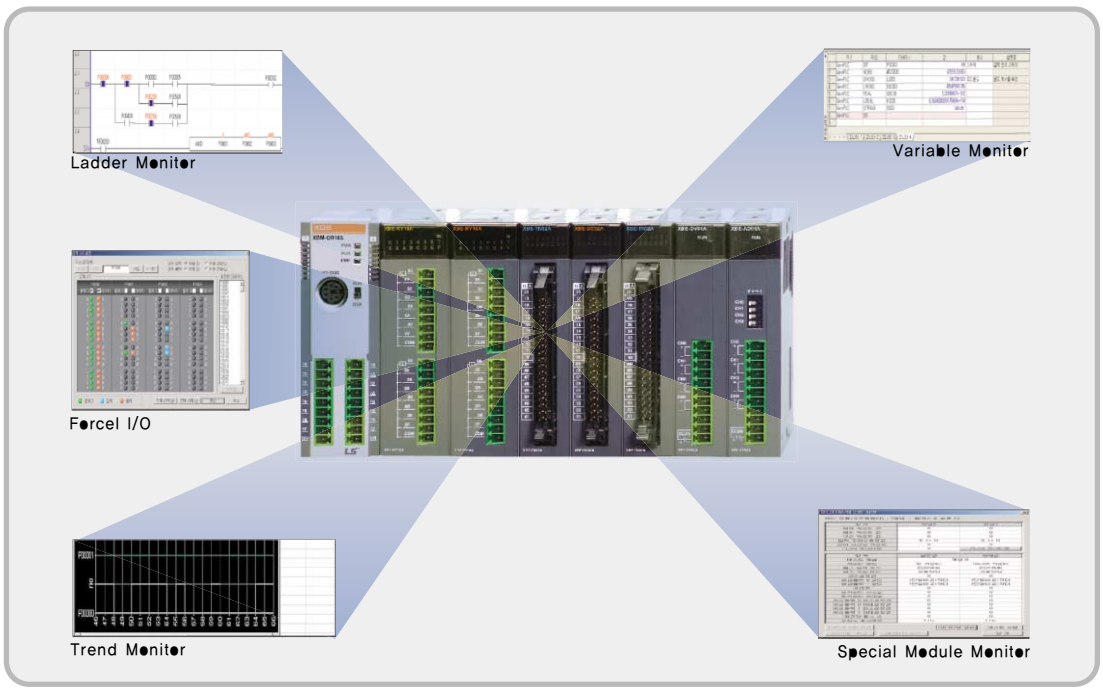


Performance Specifications

Item		Specification			
		Built-in RS-232C	XBL-C21A	Built-in RS-485	XBL-C41A
interface		RS-232C 1Ch	RS-232C 1Ch	RS-485 1Ch	RS-422/485 1Ch
Modem connection		Remote communication with external devices via modem connection, Available for only RS-232C port.			
commu-nication mode	Dedicated mode	1:1 or 1:N communication using LSIS decficated protocol			
	XG5000 mode	Program upload/download and remote control			
	P2P mode	Communication by protocal using XG-PD (Interface with other PLCs), XGT, MODBUS RTU/ASCII master communication			
Operation mode	Server(Slave)	Remote connection simultaneoualy using XGT/Modbus Server, user-defined			
	Master	XGT, MODBUS RTU/ASCII master, user-defined			
Data type	Start Bit	1			
	Data Bit	7 or 8			
	Stop Bit	1 or 2			
	Parity	Even/Odd/None			
	Setting	Basic parameter setting with XG-PD			
Synchronization		Asynchronous			
Transmission speed (bps)		Selectable among 1,200/2,400/4,800/9,600/19,200/38,400/57,600/115,200 bps			
Station number setting		Up tp 32 stations from 0 to 31 with XG-PD			
Transmission distsnce		RS-232C: Max. 15m (Extendfible by using modem), RS-422/485: Max. 500m			
Modem communication		Not available	Available	Not available	Not available
Network configuration		1:1		1:N	
Diagnosis function		Available through LED and XG-PD dagnosis service			
Max. number of installation		Built-in	2	Built-in	2

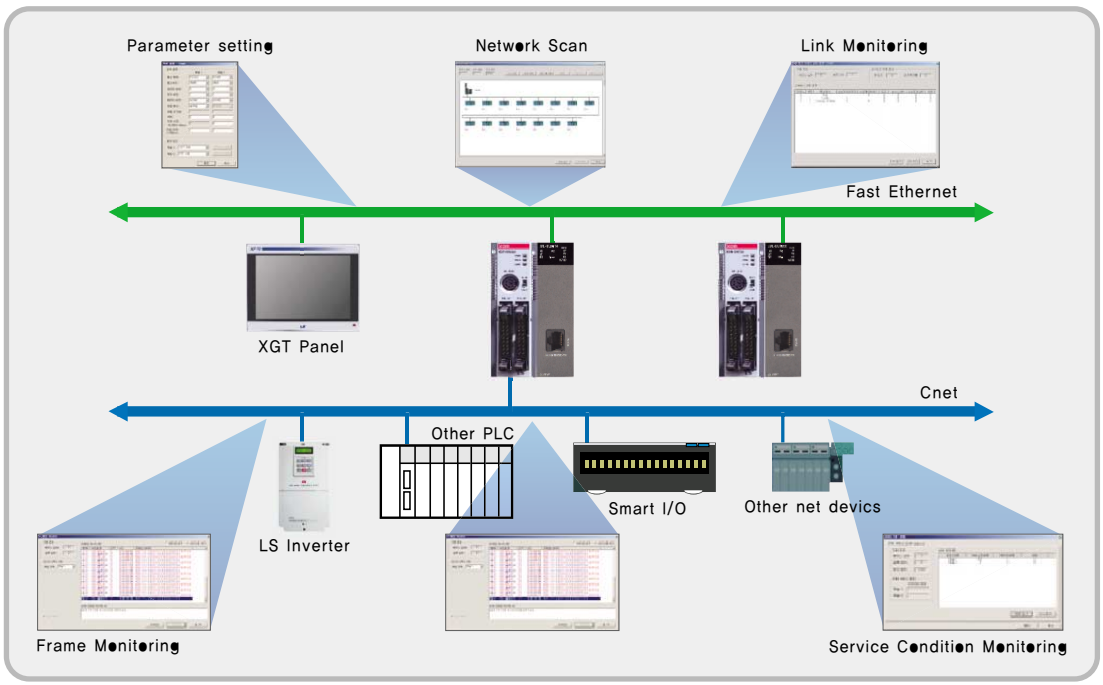
Programming Software XG5000

- Program editing & Engineering software
- Windows-based easy operation
- Multi-PLC, Multi-programming support
- Various monitoring and diagnosis functions
- Windows 2000, XP (Limited use in Windows 98, ME)



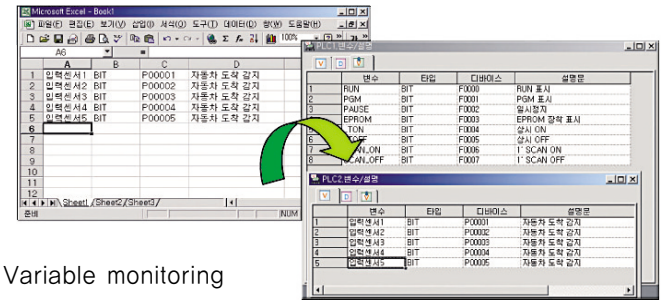
Network setting Software XG-PD

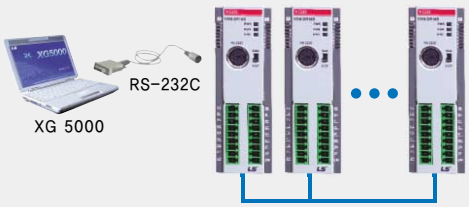
- Convenient network setting
- Extended monitoring function for network system and communication modules
- Fast interface with CPU by effective network management
- Various built-in diagnosis functions
  (CPU condition, Link condition, Service condition, Auto scan, LOG, Frame monitoring)



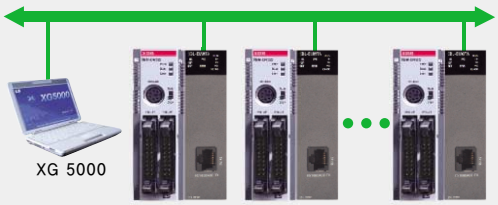
Programming environment

- Cell type input window
- Cell-unit editing
- Auto Filling
- Compatibility with Microsoft EXCEL
- Redo & Undo
- Screen split editing
- Drag & Drop
  Supports Drag & Drop for Project, Variable/Statement, Ladder editing, Variable monitoring
- User-defined shortcut key
  Enhances user convenience with user-defined shortcut key
- Remote connection with RS-485 Communication and Ethernet
  Remote connection with Max. 32 main units using built-in RS-485 Communication





Remote connection using RS-485 Communication



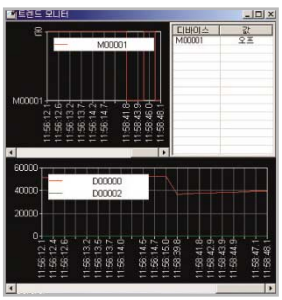
Remote connection using Ethernet

Monitoring

User-defined event

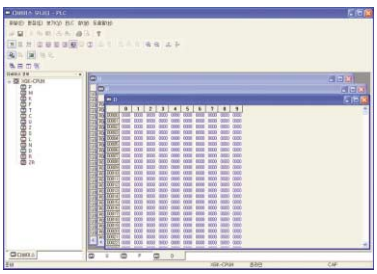
By registering user-defined event, users can read the record of specified event and use it for PLC operation and debugging.

Trend monitoring

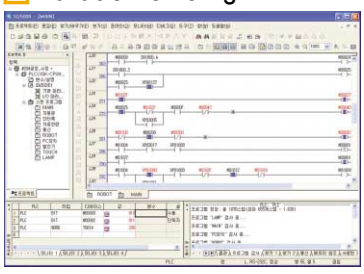


The charging value of specific device can be monitored and saved as a file.

Device monitoring



Variable monitoring



System requirement

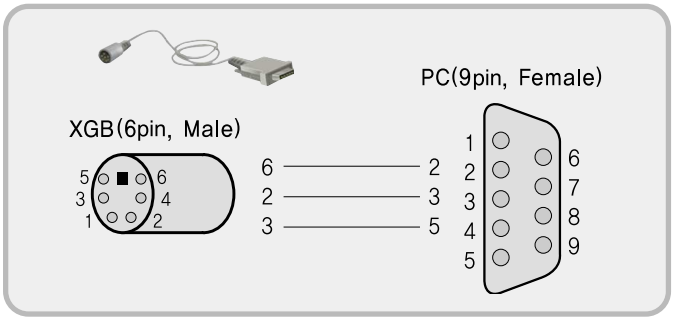
Item	System requirement
O/S	Windows 2000, XP (Limited use in Windows 98, ME)
CPU	IBM compatible PC with Min. 200MHz Pentium processor
Memory	Min. 128M RAM
HDD	100 MB (Free memory space)
Serial Port	Communication port for program transmission (RS-232C)
Printer	Compatible with Window 98 or later
Mouse	Compatible with Window 98 or later

Product list

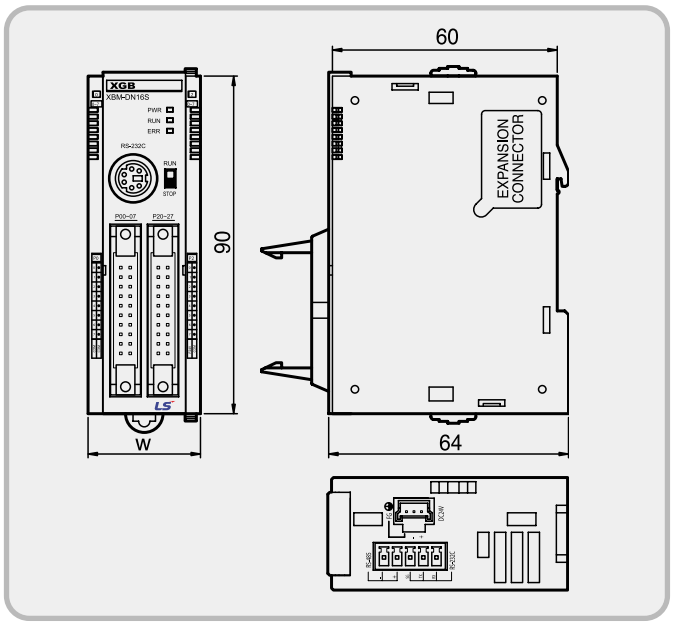
Item	Model	Specifications	Remark
Main unit	XBM-DR16S	DC24V power supply, 8-point DC24V input, 8-point relay output	-
	XBM-DN16S	DC24V power supply, 8-point DC24V input, 8-point TR output, Built-in positioning function	-
	XBM-DN32S	DC24V power supply, 16-point DC24V input, 16-point TR output, Built-in positioning function	-
Expansion I/Omodule	XBE-DC08A	8-point DC24V input	-
	XBE-DC16A	16-point DC24V input	-
	XBE-DC32A	32-point DC24V input	-
	XBE-RY08A	8-point relay output	-
	XBE-RY16A	16-point relay output	-
	XBE-TN08A	8-point Transistor(NPN) output	-
	XBE-TN16A	16-point Transistor(NPN) output	-
	XBE-TN32A	32-point Transistor(NPN) output	-
	XBE-DR16A	8-point DC24V input, 8-point relay output	-
Expansion special module	XBF-AD04A	4-channel analog input (current/voltage)	-
	XBF-DV04A	4-channel analog output (voltage)	-
Expansion Communication module	XBL-CU41A	Cnet (RS-422/485) I/F	-
	XBL-EHTA	Ethernet I/F	-
Smart Link	SLP-T40P	40-point I/O link terminal board	-
	SLP-RY4A	32-point relay output board	-
	SLP-CT101-XBM	Connection cable between XGB main unit and Smart Link (I/O link terminal board)	Plastic hood type
	SLP-CT101-XBE	Connection cable between 32/64 expansion I/O and Smart Link (I/O link terminal board, relay output board)	Plastic hood type
Loader Cable	PMC-310S	Connection cable(PC to PLC), 9pin(PC)-6pin(PLC), Soft tube type cable	Soft tube type

※ 64-point I/O and TR(PNP) output modules are under development. (XBE-DC64A, TN64A, TP8A, TP16A, TP32A, TP64A)

Loader Cable connection



Dimension



(Unit : mm)

W	Model
30	XBM-DT16/32S, XBM-DR16S
20	XBE-DC32A, XBE-TR32A,
	XBE-DC32A, XBE-TR32A,
	XBF-AD04A, XBF-DV04A
27	XBE-RY16A, XBL-EMTA

Memo

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Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact qualified service technician when you need maintenance.
  Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.

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Specifications in this catalog are subject to change without notice due to continuous product development and improvement.

Global Network

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2006. 06 LS XGB Series(E) 2006. 06/(01) 2006. JUN Printed in Korea HumanPower